

The background is a solid orange color with a subtle, fine-grained texture. On the left side, there are several thin, white, curved lines that sweep upwards and outwards, resembling stylized motion lines or perhaps the cross-sections of a fan or turbine blades. These lines are more prominent on the left and fade towards the right.

# CERAMIC ENGINEER

# CERAMIC ENGINEER

## Ceramic Engineer

Ceramic Engineers create and watch over the making of ceramics for items like pottery, glassware and heat-resistant materials for missile nose cones and shuttles. They also work on electronics and materials used in medical machines and nuclear reactors. Ceramic Engineers usually complete part of their work in modern, air-conditioned laboratories. Generally, Ceramic Engineers work eight hours a day, five days a week. They may work different hours when deadlines must be met or when they are working with a new way of doing something.

Education Requirements: Four-Year Bachelor's degree,  
Master's degree,  
Doctoral degree



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# TELECOMMUNICATIONS INSTALLER AND REPAIRER

# Telecommunications Installer and Repairer

Telecommunications Installers and Repairers set up and keep up with parts used to send communication signals through computers, televisions, radios and telephones. They deal mostly with new ways of sending information through televisions, computers, satellites and cell phones. Depending on the job, they may work in an office, a customer's home or outdoors.

Education Requirements: Four-Year Bachelor's degree



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# PURCHASING AGENT

# Purchasing Agent

Purchasing Agents buy products and services for use by their own company. They often buy office supplies or materials to create items that the company then sells. They keep price, quality, availability and support in mind when choosing from whom and what to buy. They try to get the best products and services at the lowest possible price. Purchasing Agents must be very familiar with the items, understand the company's needs and stay current with what is happening in the industry.

Education Requirements: Two-Year Associate's degree,  
Four-Year Bachelor's degree



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# LASER TECHNICIAN

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# Laser Technician

Laser Technicians make, operate, test, repair and maintain laser systems or systems that use lasers for scientific or business purposes. Laser Technicians usually work with engineers, supervisors, managers and other technicians. They usually work in clean, well-lit offices or laboratories five days a week, eight hours a day. Overtime may be required in emergency situations. Some travel may be needed to test and service equipment.

Education Requirements: Two-Year Associate's degree



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# PRODUCTION COORDINATOR

# PRODUCTION COORD

## Production Coordinator

Production Coordinators prepare production schedules and help to speed up the flow of work in manufacturing plants. They are responsible for reviewing production schedules and work orders and setting goals. Efficient Production Coordinators help lower costs and make sure that needed materials are available at the right time. Production Coordinators generally work 40 hours per week and receive time-and-a-half for work over 40 hours.

Education Requirements: Two-Year Associate's degree




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# BIOMEDICAL EQUIPMENT TECHNICIAN

# Biomedical Equipment Technician

Biomedical Equipment Technicians take care of and repair equipment used in hospitals and other medical companies. They use special tools, software and computers designed to find problems with specific pieces of medical hardware. Biomedical Equipment Technicians use hand tools and other electronic tools to repair equipment. They must keep careful, detailed lists of all maintenance and repair that they perform on each piece of equipment.

Education Requirements: Two-Year Associate's degree



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# PHOTOENGRAVER AND LITHOGRAPHER

# Photoengraver and Lithographer

Photoengravers and Lithographers are responsible for getting materials ready for printing presses. Photoengravers photograph text, develop negatives and prepare metal plates for use in printing. Lithographers expose metal plates to positive or negative film to produce offset lithographic plates that are used in printing. Both jobs may have day, evening and night shifts everyday of the week; however, their average workweek is under 40 hours. Overtime work is necessary at times.

Education Requirements: High School diploma,  
Two-Year Associate's degree



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MILLWRIGHT



# Millwright

Millwrights install, replace and repair industrial machinery and heavy equipment used in power plants, manufacturing plants, construction sites and mines. Creating the new technology often means that Millwrights use very complex and sensitive machines. Millwrights may work closely with engineers, construction managers and plant managers and must be able to read detailed layout plans and blueprints.

Education Requirements: High School diploma,  
Two-Year Associate's degree




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# ROBOTICS TECHNICIAN

# Robotics Technician

Robotics Technicians install, service, maintain and repair robots and robot systems used in manufacturing. They work with application and design engineers, machine builders and customers (if employed by a robot manufacturer). Depending on the employer, Robotics Technicians may work in test laboratories or in the manufacturing operations of robot makers. They may also service robots at users' companies. Robotics Technicians usually work a five-day, 40-hour week, although some work 10 or more hours overtime per week.

Education Requirements: High School diploma,  
Two-Year Associate's degree



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# COMPUTER-CONTROL TOOL PROGRAMMER

# Computer-Control Tool Programmer

Computer-Control Tool Programmers, also called CNC (computer numerically controlled) programmers, plan and write programs using computer languages for CNC machine tools. These machines are then used to make tools and machine parts used in manufacturing. They must review three-dimensional (3-D) Computer Aided/Automated Design (CAD) blueprints of the part and determine the order of events needed to make the part. This may involve figuring out where to cut or dig into the workpiece, how fast to feed the metal into the machine and how much metal or plastic to remove.

Education Requirements: High School diploma,  
Two-Year Associate's degree



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# COMPUTER-CONTROL MACHINE TOOL OPERATOR

# Computer-Control Machine Tool Operator

Computer-Control Machine Tool Operators, also called CNC (computer numerically controlled) setup operators, set up CNC machine tools to make the tools and machine parts used in manufacturing. Once the machine has been programmed by a programmer, the Computer-Control Machine Tool Operator loads the proper cutting tool, places the workpiece and starts the machine. If there is a problem, the setup operator or programmer will change the program to correct the problem.

Education Requirements: High School diploma,  
Two-Year Associate's degree



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# COMPUTER AIDED DESIGN (CAD) TOOL AND DIE MAKER

# Computer Aided Design (CAD) Tool and Die Maker

Tool and Die Makers use Computer Aided Design (CAD) software to help design and craft tools and machines that are used to cut, shape, measure and guide other materials. They often build metal forms, called “dies,” which are used to shape metal in stamping operations. They also make metal molds for diecasting and for molding plastics and ceramics. Some Tool and Die Makers make samples of parts and then work with engineers and designers to figure out how best to make the part.

Education Requirements: High School diploma



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# **PAINTING/COATING MACHINE OPERATOR**

# Painting/Coating Machine Operator

Painting/Coating Machine Operators paint or coat items on a factory assembly line. They put the automatic spray guns in place and set the nozzles to work with the speed of the items on the belt. The operator also may add chemicals or water to prepare the paint. While the painting machines are on, these workers tend the equipment, watch the control panel and check for anything that may not be exactly right. The operator may use a manual spray gun to “touch up” errors.

Education Requirements: High School diploma



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# WELDER

# Welder

Welders join metal or plastic parts together using heat and pressure to form a lasting bond. Welders are often trained to work with a lot of different materials, such as titanium, aluminum or plastics, in addition to steel. Welders select and set up welding equipment, do the welding and then check welds to make sure that they are correct.

Education Requirements: High School diploma



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# PRECISION ASSEMBLER

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# Precision Assembler

Precision Assemblers put together the individual parts of products. They must be very careful to put items together correctly. Work may be on just one piece of the product or on the complete product. Working conditions vary from clean, well-lighted and dust-free rooms to rooms where there is a lot of grease and oil. Much of the work requires doing the same thing over and over. Assemblers may also be under pressure to complete their job within a certain amount of time. Some assembly work may require the Precision Assembler to lift heavy objects.

Education Requirements: High School diploma



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